

CHAPTER 9B

GYPSUM WALLBOARD (GWB)

9B-01. GENERAL

a. References. Of all the indicated references, the GA-216 is most important. This is the Gypsum Association's "Recommended Specifications for the Application and Finishing of Gypsum Board". Be sure to read Paragraphs 5 and 18.

b. Framing. Generally, either wood or steel members are used. A rule of thumb for guidance with wood is that the stud or furring face should not vary more than 1/8 inch from the plane of the faces of adjacent members. (Latest GA specification says 1/4 inch and that is too great a tolerance for good workmanship.)

9B-02. MATERIALS.

a. Adhesives.

(1) Check joint treatment compound. Is it quick dry (1 day) or slow dry (3 day) for the complete, three coat system?

(2) Be sure that fastening adhesive is recommended by the wallboard manufacturer for intended use.

(3) Don't use fastening adhesive to attach wallboard in fire rated construction.

b. Fasteners and Hangers.

(1) Use only the special nail with annular rings. Nail length must be 3/4 inch longer than wallboard thickness. Too long is as harmful as too short.

(2) Use screws at least 1-1/8 inch long in wood and 1 inch long in steel members. The Type S screw is used with 25 gage steel studs and Type W is used with wood. Type S screws have drill points.

(3) Use a pan head (flat and without shoulder) screw for attaching steel stud in steel runner.

(4) Check for 9 gage galvanized hanger wire and #16 gage galvanized tie wire. Exception to tie wire is that #13 gage is used to splice furring and to tie studs, used as furring, to main channels.

c. Framing.

(1) Check Chapter 6A. CARPENTRY, for wood grade stamps, moisture, and type preservative treatment, when required. Erection is also given.

(2) Studs and runner channels are 25 gage. Studs have knockouts or holes for utility lines. Cuts made in studs for any purpose must have adjacent area reinforced. Check drawings for stud width required.

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(3) Use full length studs. Do not permit splicing steel studs.

(4) Steel members have a light weight "electro" galvanized finish.

d. Furring.

(1) Check Chapter 6A for wood furring requirements.

(2) Hat-shaped steel furring is generally used. For long spans (over 4 feet) the steel stud is used as furring.

(3) Main member supporting is the 1-1/2 inch steel channel.

e. Trim.

(1) All steel trim is galvanized; such as the corner bead, casing bead, edge bead and control joint.

(2) Zinc metal beads may be required for special use or location. Check your spaces.

f. Storage.

(1) Weatherproof storage is required for all materials used.

(2) Pre-mixed adhesives also have temperature restrictions. Check the container label.

(3) Stack GWB flat to prevent sagging. Don't permit use of damaged board.

98-03. INSTALLATION

a. Waterproofing.

(1) Check for specification requirement for water resistant type board. This specially treated board is used as a tile base.

(2) Caulk openings for pipes, etc. flush with specified waterproof material.

(3) Don't use water resistant board on ceilings.

(4) Don't use a vapor barrier behind water resistant board.

(5) Where regular gypsum wallboard needs waterproofing, check for the following:

(a) Waterproof coating at cut edges; at edge and for 4 inches on each surface from cut edge.

(b) Waterproof coating over fastener heads.

(c) Coating at edge of board adjacent to shower or tub base.

Remember that framing spacing should be less and more fasteners required in wallboard used for tile base. Check your specifications.

b. Ceiling Framing and Furring.

(1) Wood

(a) Check alignment of members.

(b) Blocking is required to support ends of GWB with fasteners. All GWB edges must be supported.

(c) Level-lap furring as required. Make joints over framing members.

(2) Steel Framing

(a) For attached ceilings: GWB is not attached directly to framing. See steel furring.

(b) Suspended ceilings

1. Check main runner channel spacing. Four foot is maximum spacing with hat-shaped furring.

2. Are wire hangers plumb?

3. Space parallel runners not more than 6 inches from walls.

4) Check for 12-inch lap at interlocking splices. Tie each end of each splice with 16 gage wire.

(3) Steel Furring

(a) Attach hat-shaped furring to framing with saddle ties.

(b) Maximum furring spacing is 16 inches on center.

(c) Space parallel furring member not more than 2 inches from wall.

(d) For spans greater than 4 feet, use studs as furring. Check the specifications for stud size and spacer required to spread stud at each tied connection to framing.

(e) Check for splice ties and staggering the lap in adjacent members. Splice lap in 8 inches.

c. Wall Framing and Furring.

(1) Wood framing and furring or walls and partitions shall be erected as prescribed in Chapter 6A, CARPENTRY.

(2) Check surface alignment of wood framing and require correction when smoothness tolerance is exceeded.

(3) Check for required blocking at:

(a) End joints of GWB.

(b) At openings in GWB.

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(c) Attached fixtures, door bumpers, chair rails, curtain rails, etc.

(4) Steel framing

(a) Check alignment of floor and ceiling runner channels.

(b) Support or runner channel at top of wall must be secure. Check specifications for details.

(c) Screw-attachment of studs to runners requires two screws at each end. One on either side of runner-stud joint before GWB is applied.

(d) Spacing of studs is usually 16 inches on center. Where 24-inch spacing is permitted, the GWB fastener interval is reduced and more fasteners are required.

(5) Steel furring

(a) Use saddle ties at the intersections with steel frame. Maximum furring span is feet.

(b) Shim for plumb alignment over concrete and masonry. Attachment is through. flanges of hat-shape furring at 24 inches on center on alternate flanges.

d. Framed Openings

(1) At ceiling openings which cut furring - use an additional runner to support furrings, each side of opening.

(2) Ceiling openings with cut framing .install additional hangers and framing to support furring.

(3) Wall openings:

(a) Check specifications for double stud requirement at unframed openings.

(b) Runner channel is used as header at top of opening. Cut channel 24 inches longer than opening width and turn ends to member into jamb studs.

(c) Check for required knee braces at jamb studs of unsupported walls.

e. Application

(1) Check preparation. Building must be weathertight before beginning GWB application.

(2) Horizontal application on walls or ceilings is when GWB tapered edges lay across (perpendicular to) attachment members.

(3) For vertical application, the tapered edges lay along (parallel to) attachment members.

(4) Check for ceiling application ahead of wall application, except that suspended ceilings are placed after wall finish.

(5) At the initial inspection, problems related to cutting, fitting, and fastener spacing and overdriving must be corrected.

(a) Smooth, cut edges are required for nest fitting joints.

(b) Plan application method for least length of end joints, Stagger end joints. Stagger end joints except in vertical application on walls.

(c) Joints on opposite sides of the same wall should not occur on same framing member.

(d) Eliminate the practice of overdriving nails or screws. Power screwdriver clutch may need adjustment to correct for overdriven screws.

(6) Check GA-216 for fastener interval and spacing requirements.

(7) Remember that vertical application requires fastener attachment at the ends of GWB sheets.

(8) For fire-rated construction, check the attachment method required in the fire-rated system. See the specifics in the description of the system in the UL Fire Resistance Directory*.

(9) Attachment fasteners shall be:

(a) Driven into ceilings beginning from the center of each GWB sheet and progressing outward.

(b) Driven into walls beginning from the top of sheets.

(10) There are restrictions to the use of foil-backed GWB. Check GA-216. For thermal effectiveness, leave at least a 3/4 inch space behind foil surface.

f. Joint Treatment

(1) Minimum temperature required is 50 degrees F. Beginning from 48 hours before treatment and until adhesive has dried.

(2) Check type adhesive used. Is it the fast drying type?

(3) Require the person mixing adhesive powder to wear a respirator.

(4) Check for three coats of adhesive at joints and fastener heads. Taper as required.

(5) Don't permit sanding the paper cover of GWB. This raises the nap of the paper which will create "high" spots in paint finish.

g. Control Joints

(1) Check for control joint requirement. These should be shown on the drawings to divide large areas of GWB surface.

(2) Install a separate attachment member for each wing of the control joint bead.